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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,395	03/25/2004	Mutsumi Yano	50024-028	5556
7590 08/11/2004 McDERMOTT, WILL & EMERY 600 13th Street, N.W. Washington, DC 20005-3096			EXAMINER THOMAS, ERIC W	
			ART UNIT 2831	PAPER NUMBER

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/808,395

Applicant(s)

YANO ET AL.

Examiner

Eric W Thomas

Art Unit

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 11-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of invention I in the reply filed on 8/2/04 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Tripp et al. (WO 00/46819).

Tripp et al. disclose a solid electrolytic capacitor comprising an anode composed on niobium nitride; and a dielectric layer composed of niobium oxide formed on the surface of the anode.

Regarding claim 8, Tripp et al. disclose the niobium nitride is composed of NbN_x where x = 1.

4. Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated by Omori et al. (WO 02/15208).

Omori et al. disclose a solid electrolytic capacitor comprising an anode composed on niobium nitride; and a dielectric layer composed of niobium oxide formed on the surface of the anode.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omori et al. (WO 02/15208) in view of Masuda et al. (US 6,400,556).

Omori et al. disclose a solid electrolytic capacitor comprising a lead composed of niobium; a niobium nitride layer formed on the surface of the niobium layer; and a dielectric layer composed of niobium oxide formed on the surface of the niobium nitride layer.

Omori et al. disclose the claimed invention except for the lead is a substrate.

Masuda et al. disclose in fig. 1, a substrate anode lead having an electrode sintered layer is formed thereon.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the capacitor of Omori et al. using a substrate anode lead as taught by Masuda et al., since such a modification would provide a lead having a high surface area.

Regarding claim 2, Omori et al. disclose the substrate and the anode constitute an anode.

Regarding claim 3, Omori et al. disclose the dielectric is nitrogen-free.

Regarding claim 4, Omori et al. disclose the claimed invention except for the niobium nitride layer is substantially composed of Nb_2N . It would have been obvious to a person of ordinary skill in the art at the time the invention was made to form the niobium nitride layer that is substantially composed of Nb_2N , since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding claim 5, Omori et al. disclose the claimed invention except for the nitrogen content based on the total weight of the substrate, the niobium nitride, and the dielectric layer is not less than 0.001 % by weight nor more than 0.2 % by weight. It would have been obvious to one having ordinary skill in the art at the time the invention was made to for the capacitor having a nitrogen content based on the total

weight of the substrate, the niobium nitride, and the dielectric layer is not less than 0.001 % by weight nor more than 0.2 % by weight, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 6, Omori et al. disclose the claimed invention except for the nitrogen content based on the total weight of said substrate, said niobium nitride, and said dielectric layer is not less than 0.001 % by weight nor more than 0.08 % by weight. It would have been obvious to one having ordinary skill in the art at the time the invention was made to for the capacitor having a nitrogen content based on the total weight of the substrate, the niobium nitride, and the dielectric layer is not less than 0.001 % by weight nor more than 0.08 % by weight, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

8. Claim 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omori et al. (WO 02/15208).

Regarding claim 9, Omori et al. disclose the claimed invention except for the niobium nitride is composed on NbN_x , where said x is not less than 0.05 nor more than 0.75. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the niobium nitride having a formula of NbN_x where said x is not less than 0.05 nor more than 0.75, since it has been held that, here the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 10, Omori et al. disclose the anode is composed of a mixture of a plurality of kinds of niobium nitride containing nitrogen. Omori et al. do not disclose the different kinds of niobium nitride have different nitrogen composition ratios. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to form the anode from a plurality of kinds of niobium nitride containing nitrogen wherein the different kinds of niobium nitride have different nitrogen composition ratios, since it has been held that, here the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Conclusion

In order to ensure full consideration of any amendments, affidavits, or declaration, or other documents as evidence of patentability, such documents must be submitted in response to this Office action. Submissions after the next Office action, which is intended to be a final action, will be governed by the requirements of 37 CFR 1.116 which will be strictly enforced.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric W Thomas whose telephone number is 571-272-1985. The examiner can normally be reached on M,Tu,Sat 9 am - 9:30 pm; W, Th, F 6 pm -10:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-1984. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2831

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



8/7/04

Eric W Thomas
Examiner
Art Unit 2831

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